

REMARKS

A. Introduction

In this Office Action, claims 11-12 are noted as allowable if put into independent form, and claims 1-7, 10 and 13-16 are rejected based on prior art.

In this Response, the specification is amended to a minor extent, claims 1, 5, 6, 10, and 13-16 are amended, new claims 17-27 are added, and remarks are provided.

The independent claims are amended to recite a coaxial movement for the electromagnetic components, and support can be found in Figs. 8-12, page 4, lines 25-26, page 5, lines 1-2 and 14-17, page 7, lines 6-12, page 9, lines 3-5, page 17, lines 5-11, and page 18, lines 1-14.

New claims 17-25 recite alternate embodiments. Support for these claims is found, e.g., at numbered paragraphs 6, 8-10, 25, 28 and 36 of the application as filed.

New claims 26 and 27 are claims 11 and 12 in independent form, and with various further amendments to the "trim" limitation to improve its clarity.

B. Rejection of Claims 1-6, 13, 14 and 15 Under 35 U.S.C. Section 103

1. Based on Ishimoto, U.S. Patent No. 4,471,566

It is respectfully submitted that the present invention, as recited by these claims, was neither anticipated nor rendered obvious by the cited prior art for the following reasons.

Ishimoto shows a controlling element 18 which is pivotally connected to a toy chassis 10 via a shaft 20 at one end. The controlling element 18 has magnets 22, 24 attached to the other end thereof. An electromagnet 26 is fixed to the toy chassis 10. The controlling element 18 also has a protrusion 28 extending upwardly which is received in an aperture 30 formed in a "steering plate" 16 "thereby allowing the controlling element 18 to engage swingably in a horizontal plane with the steering plate 16". (Col. 2, lines 53-55).

According to the present invention, the electromagnetic components move coaxially as shown and described at, e.g., in Figs. 8-12 and page 4, lines 25-26, page 5, lines 1-2 and 14-17, page 7, lines 6-12, page 9, lines 3-5, page 17, lines 5-11, and page 18, lines 1-14.

By adopting such a structure, relative to Ishimoto, the present inventors minimized the parts necessary for steering, minimized the space necessary to accommodate the structural elements, that is, allowed for greater compactness with the same or better function, and provided a more direct electromagnetic response since the movement is coaxial instead of pendular (in the latter regard the strength of the electromagnetism may change with the distance the magnet moves from the fixed electromagnet).

2. Based on Kabushiki (Japanese Reference No. 7-299255 –or the ‘255 reference) and Ishimoto

These claims have been rejected as being made obvious by a combination of Kabushiki, Japanese Reference No. 7-299255 (the ‘255 reference) and the above-discussed Ishimoto.

In response thereto, it is respectfully submitted that the present invention, as recited by these amended claims, was neither anticipated nor rendered obvious by the cited prior art for the following reasons.

The ‘299 reference is directed to an electromagnet steering mechanism structure including a pair of spaced coils 8 located on the front upper surface of the chassis 1. A ferromagnetic pin 9 is formed at a center of the front upper surface of the chassis (page 10, lines 18-19, page 13, lines 17-18, page 16, lines 9-11) between the two coils 8 (page 14, lines 12-15, page 16, lines 11-14). A permanent magnet 7 is provided in an attachment portion 61 (page 13, lines 16-17) of a separate coupling rod 6, all of which are spaced above the coils and the ferromagnetic pin 9. The magnet 7 is opposite the ferromagnetic pin 9 (Page 14, lines 15-17, page 16, lines 14-16). The attachment portion 61 projects in parallel to the chassis 1 with a predetermined space between it and the chassis 1 and it is integrally formed with the coupling rod 6. (Page 16, lines 5-8). See also the figures of the reference wherein the magnet 7 is above the pin 9 and the coils 8, and moves in a plane above them.

As noted above, each of the independent claims herein recite the coaxial movement of, e.g., the magnet relative to the coil. In the ‘255 reference, the movement of the electromagnetic members is not coaxial, but in different planes. The movement of the ‘255 reference’s magnet 7 could not be in the same plane as the coils because the pin 9 would prevent such movement. Thus, not only does the ‘255 reference lack the structure of the presently recited invention, but it would not be obvious to modify the ‘255 reference to arrive at such structure.

Further, while the ‘255 reference purports to promote miniaturization, it fails to suggest the structure of the present invention which provides far greater miniaturization than is possible

with the '255 reference, at least in the height direction of the toy vehicle. That is, by developing an electromagnetic steering mechanism that moves coaxially, less height is required, relative to a vertically spaced structure like that of the '255 reference, and yet the '255 reference nowhere suggests this possibility.

Thus, the issue under Graham v. John Deere is whether one of ordinary skill would be taught to compensate for the incomplete teaching of the '255 reference relative to the claims, based on Ishimoto. It is respectfully submitted that the answer is no.

As discussed above, Ishimoto fails to teach or suggest a need for means for coaxial electromagnetic component movement, so same could not suggest the needed modification of the '255 reference.

The Examiner suggests that Ishimoto's spring would be used with a connecting member. In this regard, there is no support as to why such a substitution would be made, since the '255 reference already has a neutrality member, the pin 9. While the Action fails to suggest how or where such a spring would be used, it is most logical that it would replace the pin 9. However, even if one were to consider using a spring to replace the pin 9 of the '255 reference, to which Applicant disagrees, the spring would similarly prevent movement of the coupling member 6 just like the pin 9 does, as described above.

C. Rejection of Claims 7, 10 and 16 Under 35 U.S.C. Section 103

These claims are rejected as being made obvious by the above-cited Ishimoto in combination with Lesney ('490). The former is cited for disclosing the features of the steering mechanism recited, and the latter is cited for disclosing a suspension, which allegedly would have been used "with the running toy of Ishimoto for the purpose of providing better suspension qualities for the toy."

For the following reasons, it is respectfully submitted that the present invention, as recited by amended claims 7, 10 and 16, was not rendered obvious by the cited combination.

The above comments regarding Ishimoto relative to the tie rod, coaxial structure, etc., also recited in claim 15, are expressly incorporated herein. Further, prior to concluding that one of ordinary skill would use a suspension with the Ishimoto device, consideration must be made as to whether and why a suspension would be used in Ishimoto at all. Ishimoto clearly includes no description of nor does it show the use of any suspension. This is believed to be because, where wheel turning members have no vertical play, such as appears to be the case with

Ishimoto, there is no need for a suspension. In this regard, Lesney is illustrative. In Fig. 6, there is vertical play in the swivel blocks 5, and a forked spring 18 extends to the front of the toy vehicle where the steering mechanism is to serve as a downward force suspension. However, for Fig. 7, the swivel blocks do not appear to have any play, and a suspension is not used. See Lesney, Page 4, left column, lines 14-16, wherein it is stated: "In this case [Figs. 7 and 8], however, the leading end of the toy is not provided with any resilient suspension.

Even if the spring 18 of Lesney were made to bias somehow against the steering mechanism of Ishimoto, same would have no effect because the swivel blocks 5 do not appear to be movable, in addition to right and left, perpendicular, as recited in claim 15 herein. Thus, to justify the use of the spring, consideration must be made as to how to make the swivel blocks 5 move up and down, and not interfere with the steering mechanism, such as not rendering same slow, or unresponsive to the remote control commands for the type of vehicle to which Ishimoto is directed.

Also, in order to incorporate the spring of Lesney 18 into Ishimoto, it must be asked how and why such a spring from a non-actuated steering mechanism (e.g., no motor/worm gear or electromagnetic function) would be used with a device which uses an actuated steering mechanism. In this regard, Lesney expressly indicates that "steering is effected solely by a child...urging the toy manually to the left or to the right ... while the manual pressure is maintained." (Page 4, left column, lines 14-32. See also column 2, lines 58-64). Neither Ishimoto nor Lesney offers guidance for adding a suspension to such an actuated steering mechanism, nor does the Office Action suggest an acceptable modification. For example, where would the Ishimoto magnet and coils go to accommodate the spring 18 taught by Lesney? By attempting to incorporate such a spring, does the operation or responsiveness of the Ishimoto steering plate 16 and controlling element 18 combination suffer? Again, this question remains unanswered.

More particularly, one would have to be taught how the Lesney spring could be incorporated in Ishimoto and still retain the electromagnetic link steering device thereof. It is not believed either Ishimoto or Lesney provides such a teaching, nor does the Office Action suggest an operable structure. In this regard, Lesney basically teaches a leaf spring 18 oriented lengthwise along the vehicle that is riveted at points 19 and 21. How would such a spring be oriented and fixed in the Ishimoto device? To what would the spring 18 of Lesney attach in the steering mechanism of Ishimoto? Lesney suggests that the spring connect to the swivel blocks 5 in front of and above the track rod 10 (see Fig. 6). To what would the spring attach to in front of

and above the steering plate 16 of Ishimoto.

In light of the above, and contrary to the above-cited conclusion in the Office, it is believed the references themselves teach away from the combination: Ishimoto's wheel turning members would not appear to be the type that would require a suspension. Even if one were to consider using a suspension therewith, it is not clear how same would be used or what additional modifications would be necessary in order to make the wheel turning members move perpendicular to the left and right movements of the wheel turning members. Also, since Lesney is not intended for an actuated steering toy, it is not known how or why one of ordinary skill would modify an actuated steering device based on Lesney.

Accordingly, it is respectfully submitted that the cited art does not include a motivation to make the suggested modifications, or even if there is a need, the means for satisfying this need is not obvious from the cited art, but would require impermissible experimentation to adapt to an actuated steering mechanism toy.

III. CONCLUSION

In light of the above amendments and remarks, it is respectfully submitted that claims 1-7 and 10-27 are now in condition for allowance.

If there are any additional fees associated with this Response, please charge same to our Deposit Account No. 19-3935.

Finally, if there are any formal matters remaining after this Response, the undersigned would appreciate a telephone conference with the Examiner to attend to these matters.

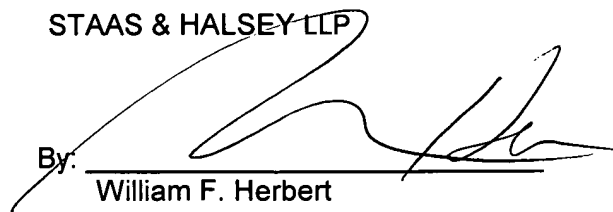
Respectfully submitted,

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